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A.W.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT(s): Schwartz, R.

SERIAL NO.: 09/308,451

ART UNIT: 2175

FILING DATE: 5/19/99

EXAMINER: Rimell, S.

TITLE: TECHNIQUE FOR EFFECTIVELY GENERATING MULTI-
DIMENSIONAL SYMBOLS REPRESENTING POSTAL
INFORMATION

ATTORNEY

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APPELLANTS' BRIEF
(37 C.F.R. §1.192)

This is an appeal from the final rejection of the claims in the above-identified application. A Notice of Appeal was mailed on August 29, 2003. The fees required under 37 C.F.R. §1.17 are being submitted herewith. This brief is being submitted in triplicate. The appendix of claims are attached hereto.

I. REAL PARTY IN INTEREST

The real party in interest in this Appeal is:

Ascom Hasler Mailing Systems, Inc., a division of Neopost, S.A.

II. RELATED APPEALS AND INTERFERENCES

None

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III. STATUS OF CLAIMS

Claims 1-45 and 89-106 are pending in the application.

Claims 1-45 and 89-106 have been finally rejected.

The claims on appeal are 1-45 and 89-106.

Claims 46-88 are withdrawn

IV. STATUS OF AMENDMENTS

There was no response under 37 C.F.R. 1.116.

V. SUMMARY OF INVENTION

In a mailing system (201) for franking a postage indicium (400) serving as proof of postage, postal data including the postage needs to be communicated through such an indicium (400). Illustratively, the postal data is categorized into (a) invariable postal data, e.g. a device ID identifying the mailing system, which is unaffected by a franking transaction, and (b) variable postage data, e.g., the postage, which may change from one franking transaction to another. To speed up the franking operation, the invariable postal data is preset (503; p. 13, l. 24, to p. 15, l. 20) for initial printing of the postage indicium (400), and the variable postal data is determined (550; p.15, l. 21, to p. 18, l. 12) and set for printing in real time (see p. 9, l. 24, to p. 10, l. 8 and p. 10, ll. 19-28). In printing the postage indicium (400), the invariable postal data and the variable postal data are presented in that order in one or more symbols (415, 420). To further speed up the operation, certain data, e.g. postage value, can be predicted using, e.g. statistical methods (564; p.15, l. 35, to p. 16, l. 12).

The indicium can be printed by an apparatus (700) having first (703) and second (705) printheads which correspond to the symbol segments (610 and 620; 810 and 820;p. 19, l. 12, to p. 21, l. 2). The printheads are separated by a gap (G, G') which is a function of the size of a delimiter separating the segments (p. 20, ll. 1-6 and 32-35).

The invention as defined by the independent claims is:

1. Apparatus (201) for processing a plurality (415,420) of postal data elements, a first one (420) of the plurality of postal data elements being a function of at least a second one (415) of the plurality of postal data elements, the apparatus comprising:

a processor (255) for arranging the plurality of postal data elements in an order where the second postal data element (415) precedes the first postal data element (420);

an output (290) for providing a representation representing the plurality of postal data elements in the arranged order.

7. Apparatus (201) for processing a plurality (415, 420) of postal data elements, the apparatus comprising:

a processor (255) for arranging the plurality of postal data elements in an order such that each postal data element

(420) preceding a second postal data element (415) is independent of the second postal data element;

an output (290) for providing a representation representing the plurality of postal data elements in the arranged order.

13. Apparatus (201) for conducting a postage franking transaction to generate a representation representing data, the apparatus comprising:

a processor (255) for identifying a first subset of the data which is unaffected by the postage franking transaction and a second subset of the data which is subject to change during the postage franking transaction;

an output (290) for providing a representation representing the first subset of the data and the second subset of the data, the representation being partitioned into a first part (415) and a second part (420) thereof, the first subset of the data and the second subset of the data being represented by the first part and the second part, respectively.

20. Apparatus (201) for conducting postage franking transaction, the apparatus comprising:

a processor (255) for processing a plurality of data elements;

an output (290) for generating at least a first symbol (415) and a second symbol (420) representing the data elements, at least part of the first symbol representing a first subset of the data elements which is unaffected by the postage franking transaction, and at least part of the second symbol representing a second subset of the data elements which is subject to change during the postage franking transaction.

26. Apparatus (201) for generating a postage indicium (400) based on at least first data, the first data being a function of second data, the apparatus comprising:

- a processor (255) for determining at least one candidate for the first data based on a predicted version of the second data;

- a comparator (566) for comparing an actual version of the second data with the predicted version thereof;

- an output (290) for generating the postage indicium based on the candidate for the first data when the actual version matches the predicted version.

34. Apparatus (201) for creating a postage indicium (400) representing a plurality of data elements, and at least one code for authenticating selected ones of the data elements, the apparatus comprising:

an interface (271) for receiving a request for creating the postage indicium;

a processor (255) for performing computations to generate the code, selected ones of the computations being performed before the request is received, the code being generated based on results of the selected computations after the request is received.

40. Apparatus (700) for printing a symbol (600, 800) representing data, the data being disposed in at least a first segment (610, 810) and a second segment (620, 820) in the symbol, the first segment being separated from the second segment by a delimiter, the apparatus comprising:

at least a first printhead (703) and a second printhead (705) for printing the first and second segments, respectively, the first printhead being separated from the second printhead by a gap (G, G'), the size of the gap being a function of the size of the delimiter (p. 20, ll. 1-6 and 32-35).

VI. ISSUES

1. Whether claims 2-6, 8-12, 14-19, 21-24, 27-32, 35-39 and 41-45 are objectionable under 37 C.F.R. 1.75(c) as being in improper dependent form for failing to further limit the subject matter of a previous claim.

2. Whether claims 1-39 and 89-106 are anticipated under 35 USC 102 by Whitney et al. ('834).

3. Whether claims 40-45 are anticipated under 35 USC 102 by Gilham (5,200,903).

VII. GROUPING OF CLAIMS

The claims do not stand or fall together.

The claims are grouped as follows:

Group I - claims 1, 7, 13, 20, 26, and 34;

Group II - claims 2-6, 8-12, 14-19, 21-24, 27-32, 35-39 and 89-106;

Group III - claim 40; and

Group IV - claims 41-45.

VIII. ARGUMENT

The Examiner has objected to claims 2-6, 8-12, 14-19, 21-24, 27-32, 35-39 and 41-45 under 37 CFR 1.75(c) and incorporates by reference the reasons in the Office Action of 1/2/02. In that action he states that since the above claims recite functional limitations, they do not properly limit their respective independent apparatus claims.

It is noted that the CAFC has stated:

"A patent applicant is free to recite features of an apparatus either structurally or functionally. See In re Swinehart, ...169 USPQ 226, 228. 'There is nothing intrinsically wrong with [defining something by what it does rather than by what it is] in drafting patent claims.'" In re Schreiber, 44 USPQ 2d (429, 1432 (emphasis added)).

See also MPEP 2173.05(g) and Wright Medical Technology, Inc. v. Osteonics Corp. 43 USPQ2d 1837, 1443-44, and K-2 Corp. v. Salomon S.A., 52 USPQ 2d 1001, 1004 (both cases analyzing functional languages as a claim limitation).

More recently, this Honorable Board has upheld functional language in Sanada v. Reynolds, 67 USPQ2d 1459. It is noted that the claims in Sanada had a form similar to those presently on appeal.

Thus, the objection to claims 2-6, 8-12, 14-19, 21-24, 27-32, 35-39 and 41-45 under 37 CFR 1.75(c) should be withdrawn since these claims do properly limit the subject matter of the previous claim.

The Examiner has rejected claims 1-39 and 89-106 under 35 USC 102 on Whitney. For claims 1-39 he incorporated by reference the reasons in the office action of 1/1/02. In that Office Action these claims were rejected by ignoring certain of their limitations as being functional.

Looking at the independent claims, claim 1 recites the ordering of the postal data elements with a first one of the elements being a function of the second one of the elements. Claim 7 recites the independence of the elements and an ordering. Claim 13 recites a first subset which is unaffected by the franking transaction and a second subset which is subject to change during franking and the output providing first and second parts. Claim 20 recites first and second symbols with the first being at least partially unaffected by franking and at least part of the second being affected. Claim 26 recites first data being a function of second data and generating the indicium when an

actual version matches a predicted version. Claim 34 recites an authenticating code with selected computations being performed before a request for generating an indicium is received.

Since these limitation must be given patentable weight (see above), and since none of them are found in Whitney, the rejection of claims 1-39 under 35 USC 102 on Whitney should be withdrawn.

Further, since none of these limitations are suggested by Whitney, claims 1-39 are unobvious over this reference.

As the Examiner correctly states, claims 89-90, 92-93, 95-96, 101-102, and 104-105 further recite the printer and mail piece. Since they are dependent on allowable claims, see supra, they are necessarily allowable in view of Whitney. Further, since their respective functional limitations must be given patentable weight, they are allowable for this additional reason.

Claims 91, 94, 97-100, 103 and 106 additionally recite a medium or mail piece having a representation, symbol or indicium on it. The Examiner states that this is objectionable printed matter citing In re Gulack 217 USPQ 401.

Preliminarily, in In re Lowry, 32 USPQ 2d, 1031, 1034, the CAFC has stated:

"The printer matter cases have no factual relevance where the invention as defined by the claims requires that the information be processed not by the mind but by a machine, the computer."

And:

"While the information content affects the exact sequence of bits stored in accordance with Lowry's data structures, the claims require specific electronic structural elements which impart a physical organization on the information stored in memory."

Here, since a processor, i.e., a computer, is recited, printed matter cases are irrelevant in the first place. Further, since a physical organization (the order of the elements) is recited, the limitations must be given patentable weight.

Further, it is noted that in the cited Gulack case, it is stated on p. 403, footnote 8, that:

A "printer matter rejection" under §103 stands on questionable legal and logical footing. Standing alone, the description of an element of the invention as printed matter tells nothing about the differences between the invention and the prior art or about whether that invention was suggested by the prior art. A printed matter rejection is based on case law antedating the 1952 patent act, employing a point of novelty approach. In re Sterling, 70 F. 2d 910, 21 USPQ 519 (CCPA 1934). The 1952 act legislatively revised that approach through its requirement that the claim be viewed as a whole in determining obviousness. Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966). The CCPA has considered all of the limitations of the claims including the printed matter limitations, in determining whether the invention would have been obvious. See In re Royka, 490 F. 2d 981, 180 USPQ 580 (CCPA 1974); In re Cavrich, 451 F. 2d 1091, 172 USPQ 121 (CCPA 1971). In Royka, 490 F.2d at 985, 180 USPQ

at 583, the CCPA, notably weary of reiterating this point, clearly stated that printed matter may well constitute structural limitations upon which patentability and be predicted. (emphasis in original)

Although here there is a rejection under 35 USC 102 rather than 35 USC 103, the basic principles of considering all limitations, including the printed matter limitations, and that printed matter may well constitute structural limitations, apply.

While it is true that, as the Examiner states, there must be a functional relationship between the printed matter and the substrate for the printed matter to be given patentable weight, it is respectfully submitted that the Examiner's holding that the function of the envelope remains the same, e.g., a container for letters, is too narrow. After all in Gulack the function of the band or ring, e.g., a belt, with or without the imprinted digits remains the same, e.g., to hold up pants. The same is true for the other examples of a band or ring in that case, e.g., a hat still covers a head. There the functional relationship was between the sequence of digits and the derivation of that sequence to the band or ring (p. 405). Here it is, e.g., the ordering of postal data elements (claim 1) and the other features of the remaining independent claims as set forth above, to the envelope.

In summary, the printed matter cases are irrelevant, and even if they are relevant, they must be narrowly construed. Further, even if they apply, since there is a structural relationship between the "printed matter" and the substrate, the limitations must be given patentable weight. Thus the rejection of claims

91, 94, 97-100, 103 and 106 under 35 USC 102 on Whitney should be withdrawn.

Further, since there is no suggestion in Whitney for the various features of these claims, they are unobvious over Whitney.

Similarly, all limitations in claim 40, including functional ones, must be given patentable weight. In particular, Gilham does not show that the size of the gap being a function of the size of the delimiter. Thus the rejection of claims 40-45 under 35 USC 102 on this reference should be withdrawn.

Further, since there is no suggestion of this feature therein, claims 40 - 45 are unobvious over Gilham.

Claims 41-45 further recite features which must be given patentable weight, see supra. Thus they are additionally patentable for this reason since the features are not found in or suggested by Whitney. See especially the finder patterns of claim 44.

The appendix of claims is attached hereto. A check in the amount of \$320 is enclosed herewith for the appeal brief fee. The Commissioner is hereby authorized to charge payment for any additional fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

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IX. APPENDIX OF CLAIMS

The texts of the claims involved in the appeal are:

1. Apparatus for ^{DIGITAL} processing a plurality of postal data ^{SIGNATURE} elements, a first one of the plurality of postal data elements ^{POSTAL DATA} being a function of at least a second one of the plurality of ^{block} postal data elements, the apparatus comprising: FIG 8

a processor for arranging the plurality of postal data elements in an order where the second postal data element precedes the first postal data element;

^{FIG 7}
an output for providing a representation representing the plurality of postal data elements in the arranged order.

2. The apparatus of claim 1 wherein the representation includes at least one barcode.

3. The apparatus of claim 2 wherein the barcode is a 2-dimensional barcode.

4. The apparatus of claim 1 wherein the representation includes at least one data matrix symbol.

5. The apparatus of claim 1 wherein the second data element concerns a postage value, and the first data element concerns a descending register value.

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6. The apparatus of claim 1 wherein the representation includes a bit map for a print image of at least one coded symbol representing the plurality of data elements.

7. Apparatus for processing a plurality of postal data elements, the apparatus comprising:

a processor for arranging the plurality of postal data elements in an order such that each postal data element preceding a second postal data element is independent of the second postal data element;

an output for providing a representation representing the plurality of postal data elements in the arranged order.

8. The apparatus of claim 7 wherein the representation includes at least one barcode.

9. The apparatus of claim 8 wherein the barcode is a 2-dimensional barcode.

10. The apparatus of claim 7 wherein the representation includes at least one data matrix symbol.

11. The apparatus of claim 7 wherein one of the plurality of the data elements concerns a postage value.

12. The apparatus of claim 7 wherein the representation includes a bit map for a print image of at least one coded symbol representing the plurality of postal data elements.

13. Apparatus for conducting a postage franking transaction to generate a representation representing data, the apparatus comprising:

a processor for identifying a first subset of the data which is unaffected by the postage franking transaction and a second subset of the data which is subject to change during the postage franking transaction;

an output for providing a representation representing the first subset of the data and the second subset of the data, the representation being partitioned into a first part and a second part thereof, the first subset of the data and the second subset of the data being represented by the first part and the second part, respectively.

14. The apparatus of claim 13 wherein the representation includes at least one coded symbol.

15. The apparatus of claim 14 wherein the coded symbol includes a barcode.

16. The apparatus of claim 15 wherein the barcode is a 2-dimensional barcode.

17. The apparatus of claim 14 wherein the coded symbol includes a data matrix symbol.

18. The apparatus of claim 13 wherein the representation includes a first coded symbol and a second coded symbol, the first part including at least part of the first coded symbol.

19. The apparatus of claim 18 wherein the second part includes at least part of the second coded symbol.

20. (Twice Amended) Apparatus for conducting postage franking transaction, the apparatus comprising:

a processor for processing a plurality of data elements;

an output for generating at least a first symbol and a second symbol representing the data elements, at least part of the first symbol representing a first subset of the data elements which is unaffected by the postage franking transaction, and at least part of the second symbol representing a second subset of the data elements which is subject to change during the postage franking transaction.

21. The apparatus of claim 20 wherein the first symbol is generated before the second symbol.

22. The apparatus of claim 20 wherein at least one of the first and second symbols includes a barcode.

23. The apparatus of claim 22 wherein the barcode is a 2-dimensional barcode.

24. The apparatus of claim 20 wherein at least one of the first and second symbols includes a data matrix symbol.

25. The apparatus of claim 20 wherein the output includes a printer.

26. Apparatus for generating a postage indicium based on at least first data, the first data being a function of second data, the apparatus comprising:

- a processor for determining at least one candidate for the first data based on a predicted version of the second data;

- a comparator for comparing an actual version of the second data with the predicted version thereof;

an output for generating the postage indicium based on the candidate for the first data when the actual version matches the predicted version.

27. The apparatus of claim 26 wherein the second data concerns a postage value.

28. The apparatus of claim 27 wherein the second data also concerns a mail class.

29. The apparatus of claim 26 wherein the predicted version of the second data is statistically determined.

30. The apparatus of claim 26 wherein the predicted version of the second data includes a postage value indicated in the last postage indicium generated by the apparatus.

31. The apparatus of claim 26 wherein the first data concerns a code for authenticating the postage indicium.

32. The apparatus of claim 31 wherein the code includes at least part of a digital signature.

33. The apparatus of claim 26 wherein the processor includes the comparator.

34. Apparatus for creating a postage indicium representing a plurality of data elements, and at least one code for authenticating selected ones of the data elements, the apparatus comprising:

an interface for receiving a request for creating the postage indicium;

a processor for performing computations to generated the code, selected ones of the computations being performed before the request is received, the code being generated based on results of the selected computations after the request is received.

35. The apparatus of claim 34 wherein the code includes a digital signature.

36. The apparatus of claim 35 wherein the selected computations include generation of a random number.

37. The apparatus of claim 36 wherein the selected computations include a computation based on a value of the random number.

38. The apparatus of claim 35 wherein the selected computations include a computation of a signature value r in accordance with a digital signature algorithm (DSA).

39. The apparatus of claim 35 wherein the selected computations include a computation based on a value of a private key in accordance with a cryptographic algorithm.

40. Apparatus for printing a symbol representing data, the data being disposed in at least a first segment and a second segment in the symbol, the first segment being separated from the second segment by a delimiter, the apparatus comprising:

at least a first printhead and a second printhead for printing the first and second segments, respectively, the first printhead being separated from the second printhead by a gap, the size of the gap being a function of the size of the delimiter.

41. The apparatus of claim 40 wherein the symbol includes a data matrix symbol.

42. The apparatus of claim 41 wherein the data matrix symbol is formatted in a dark on light format.

43. The apparatus of claim 41 wherein the data matrix symbol is formatted in a light on dark format.

44. The apparatus of claim 41 wherein the data matrix symbol includes finder patterns, and the delimiter forms part of the finder patterns.

45. The apparatus of claim 40 wherein the symbol includes a barcode.

89. The apparatus of claim 1, wherein said output includes a printer for printing said representation upon a mailpiece.

90. The apparatus of claim 89, further comprising the mailpiece.

91. The apparatus of claim 1, further comprising a mailpiece having said representation thereon.

92. The apparatus of claim 7, wherein said output includes a printer for printing said representation upon a mailpiece.

93. The apparatus of claim 92, further comprising the mailpiece.

94. The apparatus of claim 7, further comprising a mailpiece having said representation thereon.

95. The apparatus of claim 13, wherein said output includes a printer for printing said representation upon a mailpiece.

96. The apparatus of claim 95, further comprising the mailpiece.

97. The apparatus of claim 13, further comprising a mailpiece having said representation thereon.

98. The apparatus of claim 25, further comprising the mailpiece having said symbols thereon.

99. The apparatus of claim 20, further comprising a mailpiece having said symbols thereon.

100. The apparatus of claim 26, further comprising a mailpiece having said indicium thereon.

101. The apparatus of claim 26, wherein said output includes a printer for printing said indicium upon a mailpiece.

102. The apparatus of claim 101, further comprising the mailpiece.

103. The apparatus of claim 34, further comprising a mailpiece having said indicium thereon.

104. The apparatus of claim 34, further comprising a printer for printing said indicium upon a mailpiece.

105. The apparatus of claim 104, further comprising the mailpiece.

106. The apparatus of claim 40, further comprising a medium having said symbol thereon.